



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,652	04/17/2006	Jens Schneider	10191/4257	7198
26646 7590 11/17/2009 KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004				
EXAMINER				
RIPA, BRYAN D				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
11/17/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/540,652

**Applicant(s)**

SCHNEIDER ET AL.

**Examiner**

BRYAN D. RIPA

**Art Unit**

1795

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/CD)  
Paper No(s)/Mail Date 7/14/09
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

In response to the amendment received on July 14, 2009:

- claims 11-15 are presently pending
- the objection to the disclosure is withdrawn in light of the amendment to the specification
- the objections to claim 11 are withdrawn in light of the amendments to the claims
- the rejection of claim 11 under 35 U.S.C. § 112 is withdrawn in light of the amendments to the claims
- the prior art rejections of claims 11-15 are withdrawn in light of the amendments to the claims
- new grounds of rejection are set forth below

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on July 14, 2009 was filed after the mailing date of the First Office Action on April 14, 2009. However, the submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

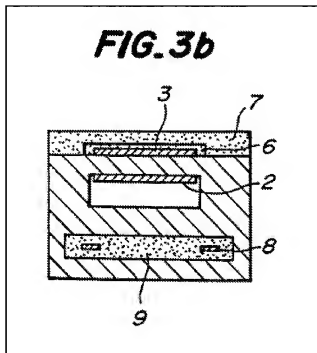
This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over OGASAWARA in view of Friese, (U.S. Pat. No. 4,296,148) (hereinafter referred to as "FRIESE")

Regarding claim 11, OGASAWARA teaches a measuring sensor for determining a physical property of a measured gas (see generally col. 1 lines 27–39 discussing the measuring sensor being an oxygen sensor for determining the oxygen concentration in an exhaust gas of an automobile and figure 3b below) comprising:

- a sensor element (see col. 2 lines 33–41 and portion of figure 3b below upper protective layer 7) capable of being exposed to the measured gas, the sensor element including a ceramic element made of solid electrolyte layers, an outer electrode situated on a surface of the ceramic element and a porous protective lining coating the outer electrode (see figure 3b below comprising a ceramic element made of solid electrolyte layers having an outer electrode with lower protective layer 6, i.e. the porous protective lining, coating electrode 3); and
- a protective layer at least partially coating the sensor element (upper protective layer 7) capable of protecting against harmful components in the measured gas, the protective layer covering the porous protective lining (see upper protective layer 7 covering lower protective layer 6) wherein the protective layer includes  $\gamma$ -aluminum oxide having an additive of the alkaline earth group (see generally col. 4 lines 12–16 and col. 7 lines 5–9 teaching the use of  $\gamma$ -aluminum oxide with magnesia particles to form the protective layer; see also the embodiment shown

in figure 8 and discussed at col. 7 lines 5-9 teaching the outer protective layer comprising magnesium in a  $\gamma$ -alumina layer that is coating protective layer 22 or the lower protective layer 6).



OGASAWARA, however, does not explicitly teach the material of the lower protective layer, i.e. the protective lining, including zirconium oxide having a small proportion of aluminum oxide.

However, FRIESE teaches the use of a lower protective layer wherein the layer comprises zirconium oxide having a small proportion of aluminum oxide (see col. 4 lines 42-58 teaching the incorporation of aluminum oxide into the zirconium oxide protective layer).

Moreover, OGASAWARA teaches the lower protective layer, as in the embodiment of figure 8 being protective layer 22, comprising zirconium oxide (see col. 3 lines 57-60 teaching the protective layer being made of zirconia).

Furthermore, FRIESE teaches the benefit of a lower protective layer comprising both zirconia and alumina as claimed over the use of a protective layer comprising only zirconia being that it provides a layer having better adhesion (see col. 4 lines 42-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute the zirconia protective layer of OGASAWARA with the protective layer of FRIESE having zirconia and a small proportion of alumina as claimed.

Regarding claim 12, OGASAWARA teaches the measuring sensor for determining a physical property of a measured gas wherein the measuring sensor is for determining an oxygen concentration in an exhaust gas of an internal combustion engine (see discussion above with respect to claim 11).

Regarding claim 13, OGASAWARA teaches the measuring sensor for determining a physical property of a measured gas wherein the additive is a metal oxide of an alkaline earth group (see discussion above with respect to claim 11).

Regarding claims 14 and 15, OGASAWARA teaches the measuring sensor for determining a physical property of a measured gas wherein the protective layer is

extremely porous (see col. 3 lines 54–67 teaching the protective layer being porous) and has a great layer thickness with the thickness of the protective layer being greater than 250  $\mu\text{m}$  (see col. 3 lines 66–67 teaching the protective layer having a thickness of 10 to 500  $\mu\text{m}$ ).

### ***Response to Arguments***

Applicant's arguments with respect to claims 11-15 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN D. RIPA whose telephone number is 571-270-7875. The examiner can normally be reached on Monday to Friday, 9:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harry D Wilkins, III/  
Primary Examiner, Art Unit 1795

/B. D. R./  
Examiner, Art Unit 1795